

**IN THE SPECIFICATION**

Please replace paragraph 26, with the following amended paragraph:

[0026] The present system can be extended with more channels, further improving the overall accuracy of the present system. The present system may be extended with a dynamic channel weighting function that uses human motor laws to calculate the plausibility of the user relying on either ~~least~~ location or shape information. For example, a user drawing a shape gesture very slowly would indicate that the user is producing a stroke by looking at the corresponding keys on the layout; hence the ~~least~~ location channel should have more weight than the shape channel and vice versa.

Please replace paragraph 66, with the following amended paragraph:

[0066] In another alternative embodiment,  $\theta$  may be dynamically adjusted by calculating the total normative time of writing the pattern of word  $i$ :

where  $D_{k, k+1}$  is the distance between the  $[[k \text{ th}]]$   $k^{\text{th}}$  and the  $[[k+1 \text{ th}]]$   $(k+1)^{\text{th}}$  letters of word  $i$  on the keyboard;  $W$  is the key width,  $n$  is the number of letters in the word; and  $a$  and  $b$  are two constants in Fitts' law. In the context of virtual keyboard, the values of constants  $a$  and  $b$  are estimated at  $a = 83\text{ms}$ ,  $b = 127\text{ms}$ . Reference is made to Accot, J., and Zhai, S., "More than dotting the i's - foundations for crossing-based interfaces," Proc. CHI. 2002, pages 73 – 80; and to Zhai, S., Sue, A., and Accot, J., "Movement model, hits distribution and learning in virtual keyboarding," Proc. CHI. 2002, pages 17 – 24.

Once  $t_a(i)$  for each word, and the total time of the actual gesture production  $t_a$  are determined, it is then possible to modify the probability calculated from the location based classifier. This information could be used to adjust the  $\theta$  value with in the following equation:

$$\text{if } t_a > t_n(i), \theta_n = \theta$$

$$\text{if } t_a < t_n(i), \theta_l = \theta$$

This means that the actual time is greater than the Fitts' law ~~prediction, the prediction~~. The user could be taking time to look for the keys. No adjustment is needed in this case.

$$\text{If } t_a > t_n(i), \text{ If } t_a < t_n(i), \quad \theta_L = \theta(1 + \gamma \log_2(t_n(i)/t_a))$$

For example, if  $t_a$  is 50% of  $t_n(i)$ ,  $\theta$  will increase by 100% percent,  $\gamma$  is an empirically adjusted parameter, expected to be between 1 and 10.

It should be noted that this approach is more than simply adjusting the relative weight between the location and the non-location channels. It modifies the location based channels' probability of each individual word according to its path on the keyboard.